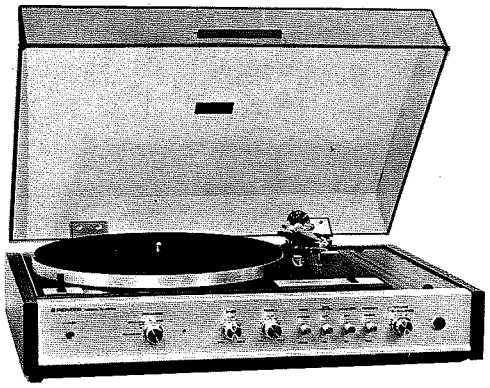
COMPACT STEREO SYSTEM

C-4500A HV HVT

PIONEER

OPERATING INSTRUCTIONS



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Thank you very much for purchasing the C-4500A Compact Stereo System. Please read these Operating Instructions carefully and operate the equipment properly in order to realize the many years of magnificent stereo performance that has been built into the C-4500A.
Model C-4500A is available both with and without a stereo phono cartridge. If your model has none, the first thing to do is to attach the one you have or buy a good quality stereo phono cartridge.

FEATURES

- The circuit design is the product of long experience. Low distortion, flat performance characteristics are obtained together with a remarkable 44W music power (at 4Ω). Extremely stable construction assures long term reliability.
- Two pairs of speaker systems can be connected and switched on together or separately, permitting you to speaker sound for the purpose of tests or remote installations.
- The Pioneer belt-drive system built into this unit owes its popularity to the superior rotation speed stability and improved signal-to-noise ratio provided by the poly-urethane belt. This system is unaffected by changes in temperature and humidity and is one of the reasons behind the C-4500A's outstanding performance.
- The 4-pole synchronous motor which drives the C-4500A's precision-formed die-cast aluminum alloy platter assures new levels of smooth, rumble-free performance with no speed variations.
- To keep the stylus tracking perfect along the center of the record groove (in other words, to compensate for the inward thrust of the tonearm), a specially developed spring-activated anti-skating device is provided. Its effect is to guarantee fine channel separation when playing stereo records.
- The light-weight and light-tracking tonearm is shaped for almost perfect geometry and minimum tracking error.

INSTALLATION SITE

To assure continued trouble-free performance, avoid installing the C-4500A in locations such as the following:

- In direct sunlight, near radiators or other heat producing equipment.
- Locations with poor ventilation, high humidity or dust content.
- In general, better acoustics can be obtained with the speakers installed with their back to a wall. The electronic section of the C-4500A, however, should be provided with at least 5cm clearance to allow proper ventilation.

CABINET MAINTENANCE

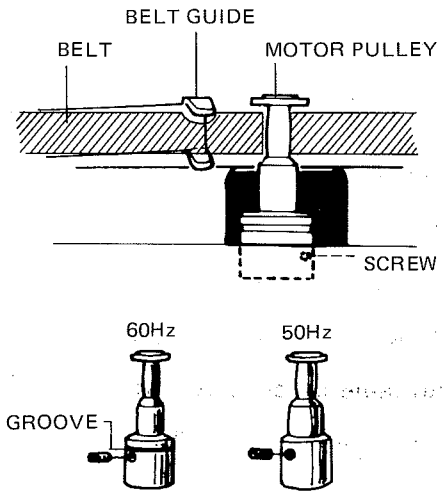
The walnut grain finish cabinet can be kept in top condition by periodic dusting with a polishing cloth or dry cloth. Do not use household waxes, benzine or other solvents. Avoid using insect sprays or similar volatile substances in the vicinity of the equipment.

AC LINE FREQUENCY

The C-4500A has been factory set to operate from the standard AC line voltage and frequency of the country in which it is sold. If the equipment is to be used in another country, consult the local power company regarding the voltage (220V~240V) and frequency (50Hz or 60Hz). The user can adjust frequency for himself, but if the voltage is different, consult a Pioneer dealer (or authorized service station). To adjust line frequency you need a different motor pulley which is not provided with this machine. Please contact Pioneer Electronic (Europe) N.V.

FREQUENCY ADJUSTMENT

1. Remove the turntable platter. Observe the motor pulley which is fastened to the shaft by a set-screw. Remove the setscrew with a screwdriver and take off the pulley.
2. Set the speed selector to 33 rpm.
3. Attach a replaceable pulley on the motor shaft using the furnished setscrew. Do not tighten the setscrew yet. Set the platter on the turntable and guide the belt around the pulley.
4. The belt should be positioned in the belt guide and around the upper part (smaller) of the pulley. If necessary, readjust the pulley height. Tighten the pulley setscrew (Fig. 1).
5. Turn the unit on and observe that the belt travels smoothly through the belt guide and around the pulley.



How to Distinguish the Motor Pulleys
Pulley for 50Hz AC: larger diameter.
Pulley for 60Hz AC: smaller diameter also has a groove in its lower part.

Fig. 1

TURNTABLE ASSEMBLY

CHASSIS SUSPENSION

For protection during shipment, the chassis is secured to the base with the two clamp screws. These must be removed before assembling the turntable.
The chassis will then float on its vibration-absorbing spring suspension (Fig. 2).

MOUNTING OF TURNTABLE PLATTER

The turntable platter and rubber mat are packed separately. Take them out. First put the turntable on the center shaft. After the belt has been set on the pulley, place the rubber mat on the platter.

SETTING THE BELT ON THE MOTOR PULLEY

Set the speed selector lever to the 33 rpm position. Pulling the ribbon attached to the belt, lead the belt through the belt guide and set it on the smaller diameter portion (the upper portion) of the motor pulley. After the belt has been properly set on the motor pulley, remove the ribbon (Fig. 3).

HEAD SHELL INSTALLATION

Insert the head shell on the end of the tonearm. Secure by tightening the arm side locking collar (Fig. 4).

MAIN COUNTERWEIGHT INSTALLATION

Install the main counterweight on the rear end of the tonearm. When slightly inserted, the screw threads will mesh; rotate the weight clockwise 2 or 3 times (Fig. 5).

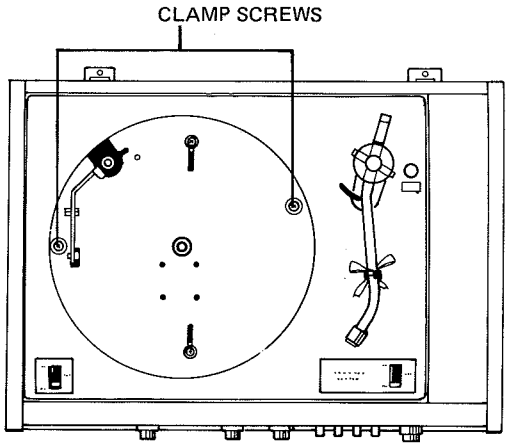


Fig. 2

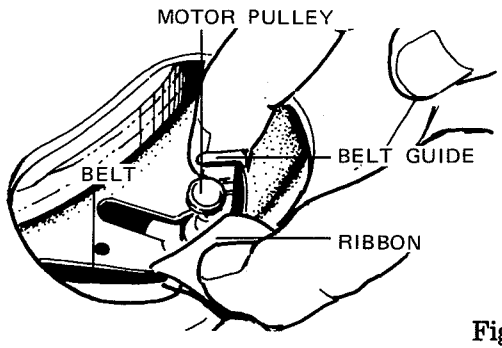


Fig. 3

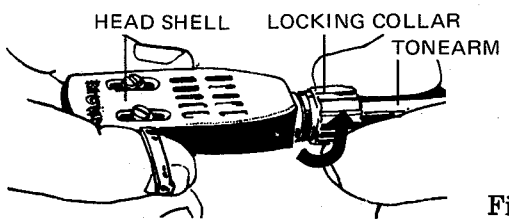


Fig. 4

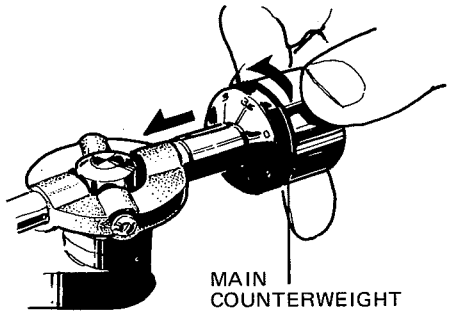


Fig. 5

FULL PARTS IDENTIFICATION

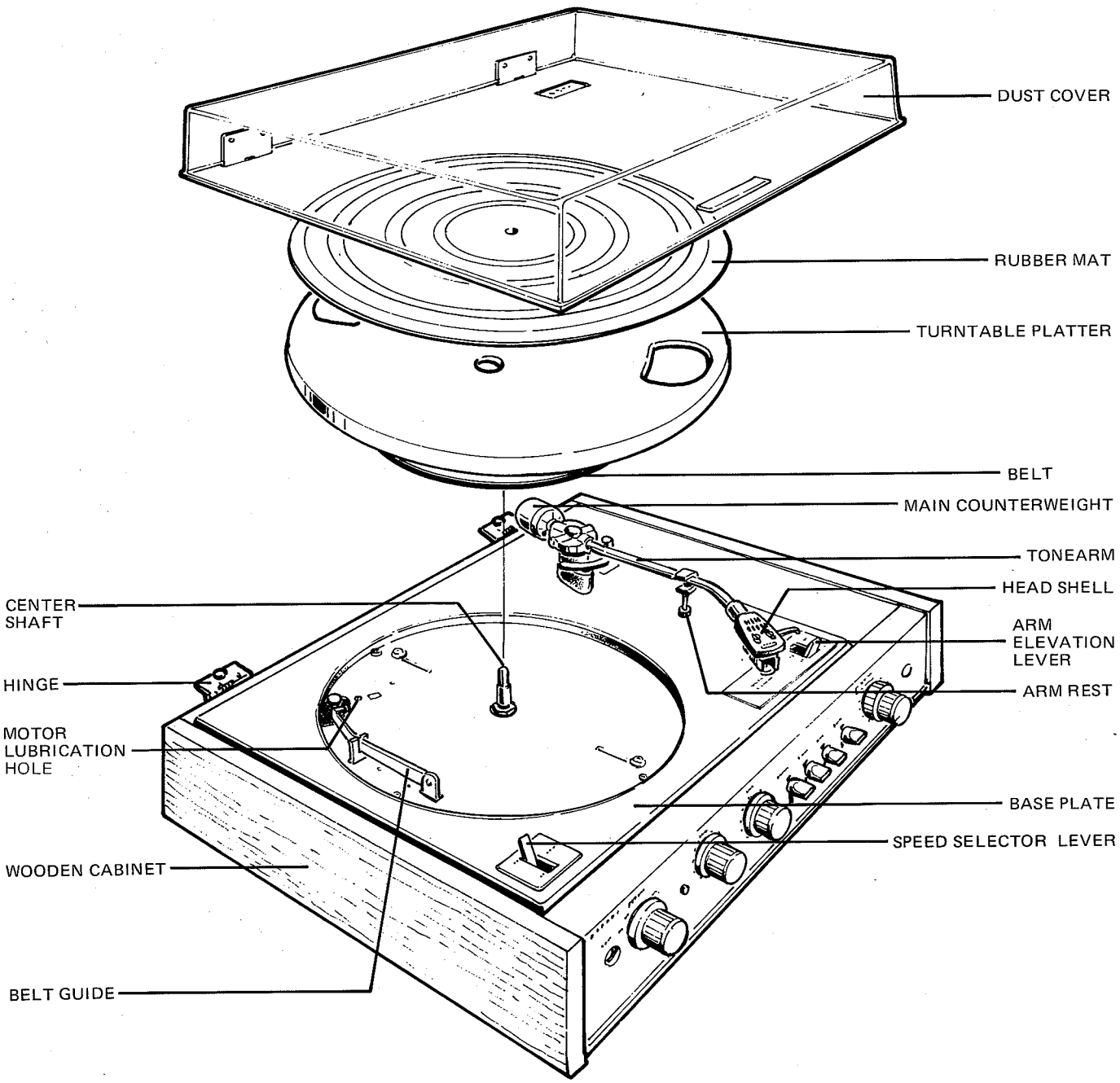
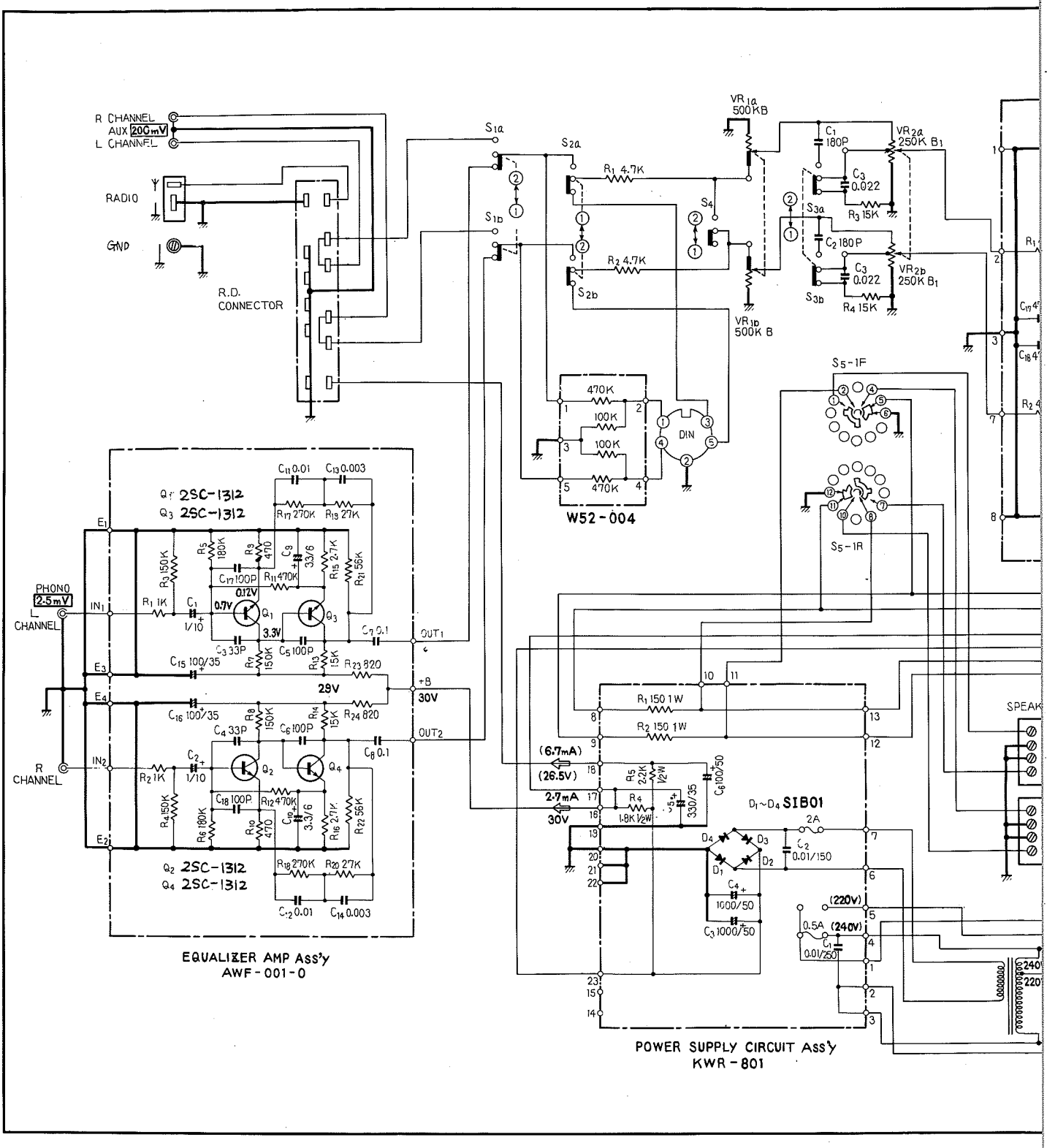
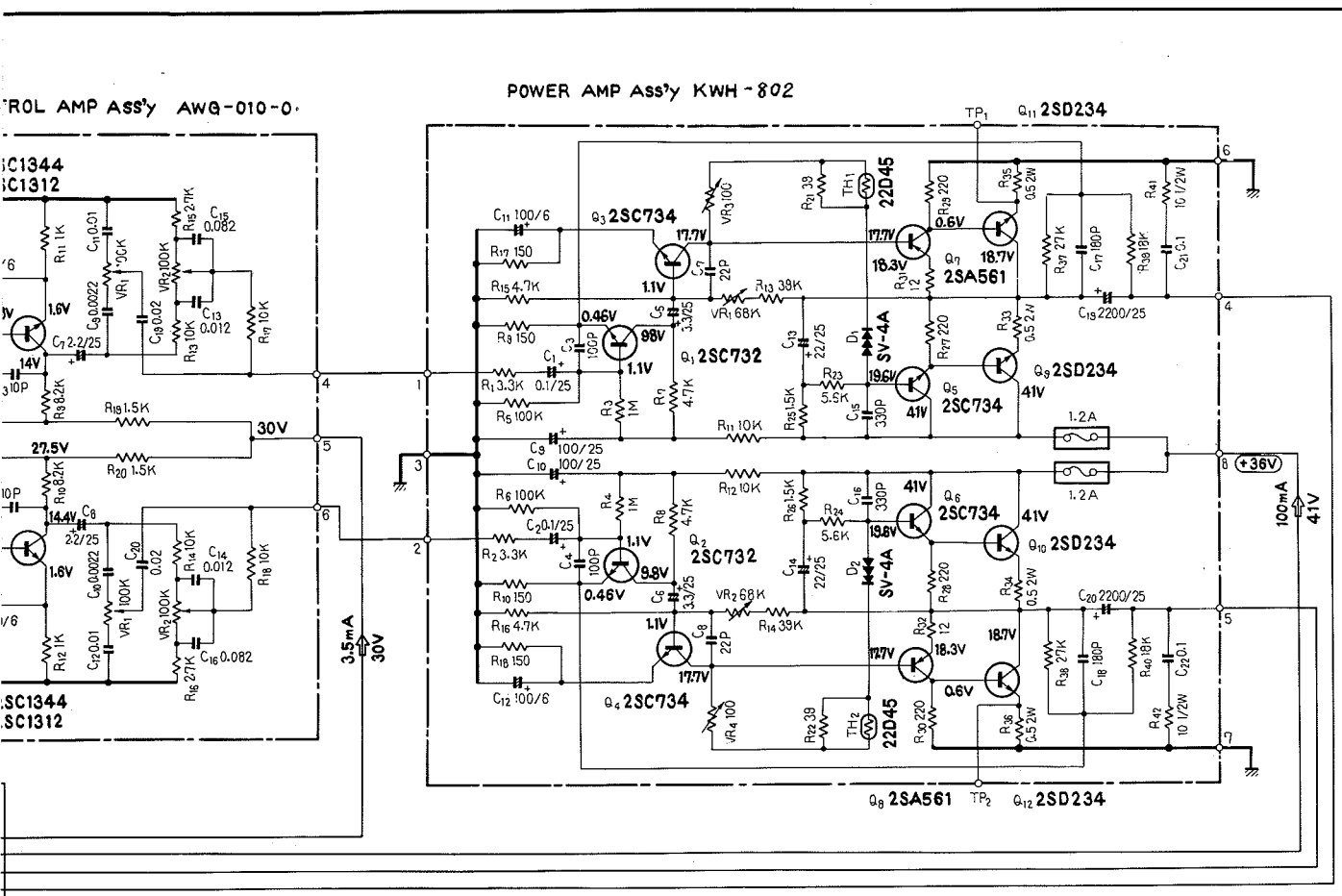
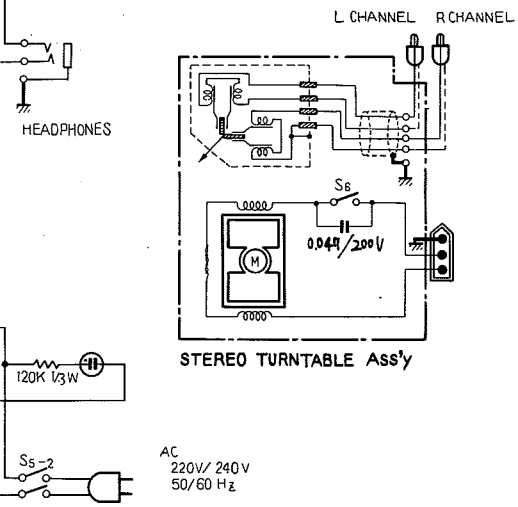


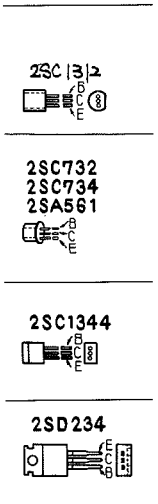
Fig. 6

SCHEMATIC DIAGRAM









SWITCHES

S_1	FUNCTION	① PHONO ② AUX (RD)
S_2	TAPE MONITOR	① OFF ② ON
S_3	LOUDNESS	① OFF ② ON
S_4	MODE	① STEREO ② MONO
S_5	POWER · SPEAKERS	① POWER OFF ② SP·A ③ SP·OFF ④ SP·B ⑤ SP·A+B
S_6	TURNTABLE	ON OFF

RESISTORS
IN OHM, 1/4 W, ±5% TOLERANCE UNLESS OTHERWISE NOTED. K=KΩ, M=MΩ

CAPACITORS
IN μF UNLESS OTHERWISE NOTED. P=pF

NOTES
- (V) : SIGNAL VOLTAGE NECESSARY FOR OBTAINING 10W/10W 8Ω OUTPUT POWER (1KHz)
- ⇦ V : DC VOLTAGE AT NO INPUT SIGNAL.
- ⇦ A : DC CURRENT AT NO INPUT SIGNAL.
- (V) : DC VOLTAGE AT 4W/4W 8Ω OUTPUT POWER.

PIONEER C-4500A HV HVT

SPECIFICATIONS

SEMICONDUCTORS

Transistors	18
Diodes	6

AUDIO SECTION

Music Power Output (IHF H.D. 0.5%)	44W (4Ω), 36W (8Ω)
Continuous Power Output (IHF H.D. 0.5%) (each channel driven)	16W/16W (4Ω) 13W/13W (8Ω)
Continuous Power Output (IHF H.D. 0.5%) (both channels driven)	12W + 12W (4Ω) 10W + 10W (8Ω)
Frequency Response	20Hz to 50kHz ±3dB
Hum and Noise (IHF)	
PHONO	More than 70dB
AUX	More than 90dB
Input Sensitivity/Impedance (1kHz, Continuous power output)	
PHONO	2.5mV 50kΩ
AUX	200mV 100kΩ
Output Jacks and Terminals	Speakers 4Ω ~ 16Ω Headphone Jack Tape REC/PB Connector (DIN type)
Bass Control	-11dB, +12dB (100Hz)
Treble Control	-10dB, +9.5dB (10kHz)
Loudness Contour	Switchable to ON-OFF +10dB (100Hz), +5.5dB (10kHz), with volume control set at -40dB position
Channel Separation	
PHONO	More than 50dB (1kHz)
AUX	More than 55dB (1kHz)

TURNTABLE

PHONO MOTOR and TURNTABLE PLATTER

Motor	4-pole synchronous type, Belt-driven
Speed	2 Speeds (33-1/3 and 45rpm)
Turntable Platter	30cm(12in.) diam. Aluminum alloy die-cast
Wow and Flutter	Less than 0.1%
S/N	47dB or more (in case of use Pioneer cartridge PC-30)
Working Voltage	AC 220/240V, 50Hz or 60Hz (motor pulley exchangeable)

(Above specifications refer to combination of turntable with the Pioneer phono cartridge model PC-30)

Tonearm

Tonearm Type	Static balance type S-shaped pipe arm
Usable Cartridge Weight	4 ~ 8.5g
Cartridge Attached	EIA standards

Subfunctions

Anti-skating Force Control
Hydraulic Cueing Device
Head Shell Plug-in Type

Cartridge

Type	Induced magnet type (PC-30)
Stylus Point	0.5 mil diamond
Stylus for Replacement	Pioneer stylus model PN-30
Tracking Force (stylus pressure)	2.2 ~ 2.8g

Others

Wooden Cabinet	Walnut grain finished
External Dimensions	517(W)x172(H)x398(D)mm 20-5/16(W)x6-3/4(H) x15-5/8(D)in.
Power Requirements	220V/240V, 50Hz/60Hz
Power Consumption	78W
Total Weight	With package 14.9kg/32lb Without package 12.9kg/28lb
Furnished Accessories	EP Record Adaptor . . . . . 1 Lubricant (for turntable) . . 1 Screwdriver (small) . . . . . 1 Operating Instructions . . . 1

NOTE:
Specifications and the design subject to possible modification without notice due to improvements.

TONEARM ADJUSTMENT

HORIZONTAL BALANCING

1. Set the anti-skating force control to "0" (Fig. 9).
2. Remove the stylus protection cover from the cartridge.
3. Free the tonearm from the arm rest.
4. Set the arm elevation lever to "DOWN".
5. Move the main counterweight slowly back and forth (by turning it) until the tonearm floats in horizontal position.
6. Keeping the weight in this position, turn only the tracking force dial ring so that the zero aligns with the white index line on the tonearm (Fig. 7).

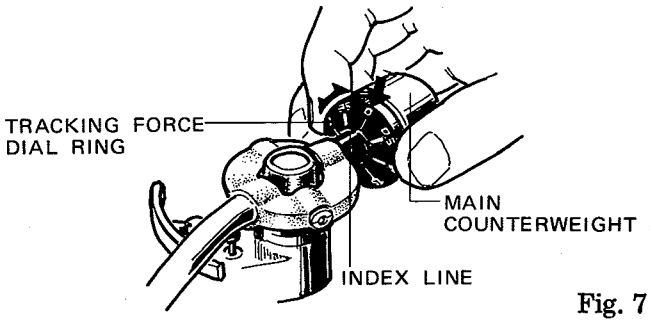


Fig. 7

TRACKING FORCE ADJUSTMENT

After the horizontal balancing is complete, the tonearm is at "0" tracking force. Turn the whole main counterweight (with which the tracking force dial will turn) until the gauge reads the correct For example, for 2.5 grams tracking force, turn the weight so that the number 2.5 is at the marker.

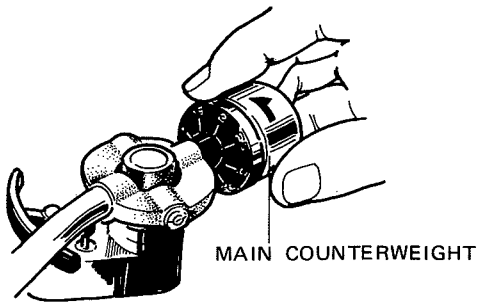


Fig. 8

ANTI-SKATING ADJUSTMENT

The anti-skating force control knob should be adjusted to the same setting as that required for the tracking force (Fig. 9).

For example, if tracking force is 2.5 grams, set this knob to "2.5."

What is "Anti-skating"?

As the record groove moves in relation to the stylus it exerts a force on the stylus pushing it toward the center of the record. This is called "skating force" and will actually cause the stylus to jump out of the groove and "skate" if it is too strong. Even when this does not occur, the force distorts the sound response. The anti-skating device is designed to cancel this force.

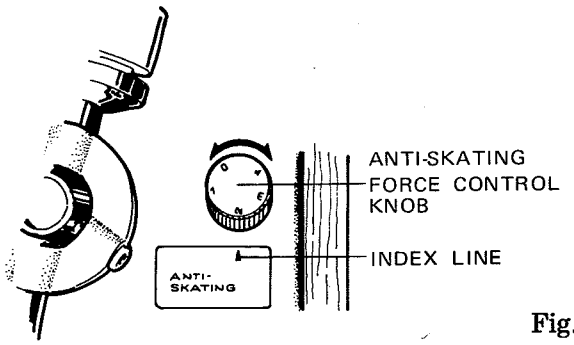


Fig. 9

ATTACHING THE DUST COVER

1. Hold dust cover vertically (Fig. 10A).
2. From behind, slip cut-outs in cover hinges over pegs on base hinges.
3. Push dust cover about 2 ~ 3cm to the right (as seen from the back) to secure hinges (Fig. 10B).

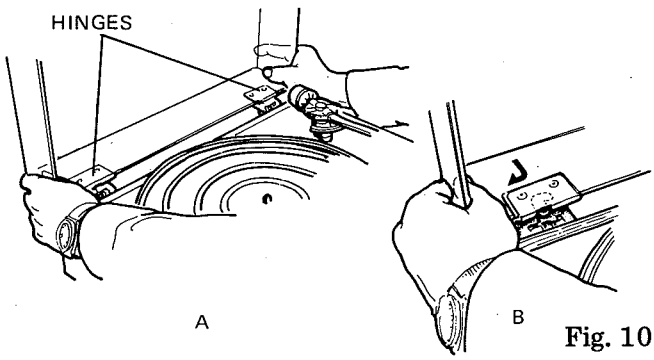


Fig. 10

SPEAKER SYSTEM CONNECTION AND PLACEMENT

CONNECTION

- As shown in Fig. 11, connect speaker system and amplifier rear terminals. Be sure to observe the polarity (⊕ and ⊖) and take care not to misconnect. Also note that possible damage may be incurred if ⊕ and ⊖ are shorted.
- When one set of speakers is to be employed, connect it to the A terminals. The R indicated terminal is for the right channel speaker (placed at the right as viewed from the front panel), while the L indicated terminal is for the left channel speaker.
- A second speaker system may be connected to the B terminals. Connect in the same manner as for the A terminals.

NOTE:
When using both of speakers simultaneously (with the SPEAKERS switch set to A + B), all speakers should have impedances higher than 8Ω. Difficulties may arise if speakers with impedances less than 8Ω are used.

PLACEMENT

The optimum stereo effect can be obtained if the left and right speakers are placed from 1 to 2.5 meters apart to form the base of an equilateral triangle with respect to the listener. The speakers should also be as nearly equal in height above the floor as possible. If the difference in height is too great, the stereo effect will deteriorate.

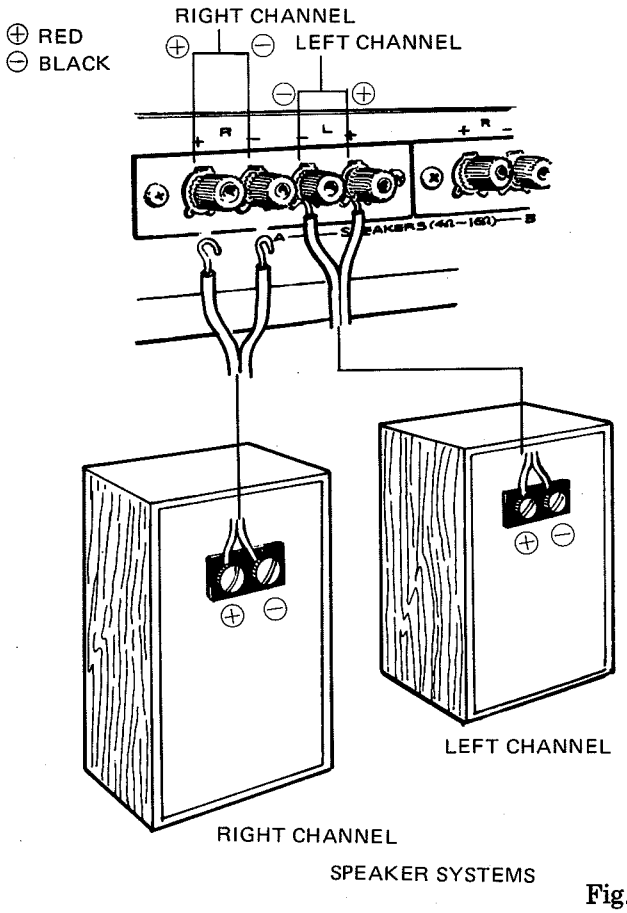


Fig. 11

TAPE DECK CONNECTION

- While tape decks are available as open reel, cassette, and cartridge types, employ a machine equipped with built-in recording and playback preamplifiers, and with DIN connector.
- Connection: With separately sold record/playback cord, connect the amplifier rear panel TAPE REC/PB connector and the tape deck DIN terminal. Recording and playback connections are simultaneously performed by this operation (Fig. 12).
- When using a monophonic tape recorder, connect it to the upper or lower AUX jack and set the MODE switch to the MONO position.

AUX TERMINALS

AM/FM tuner, cartridge tape player, television audio output, etc., can be connected to the AUX terminals. The upper jack is for the left (L) channel and the lower for the right (R) channel.

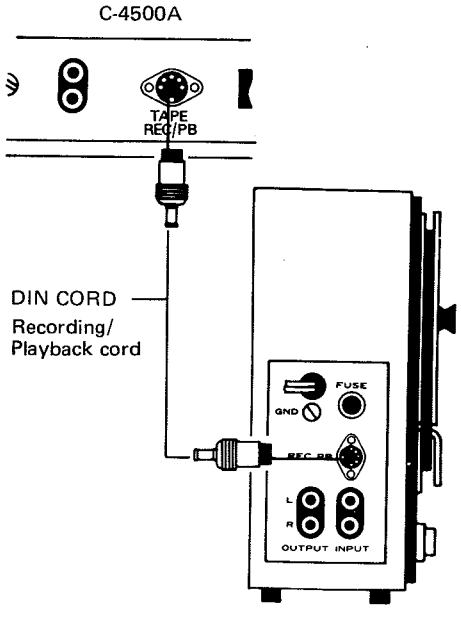
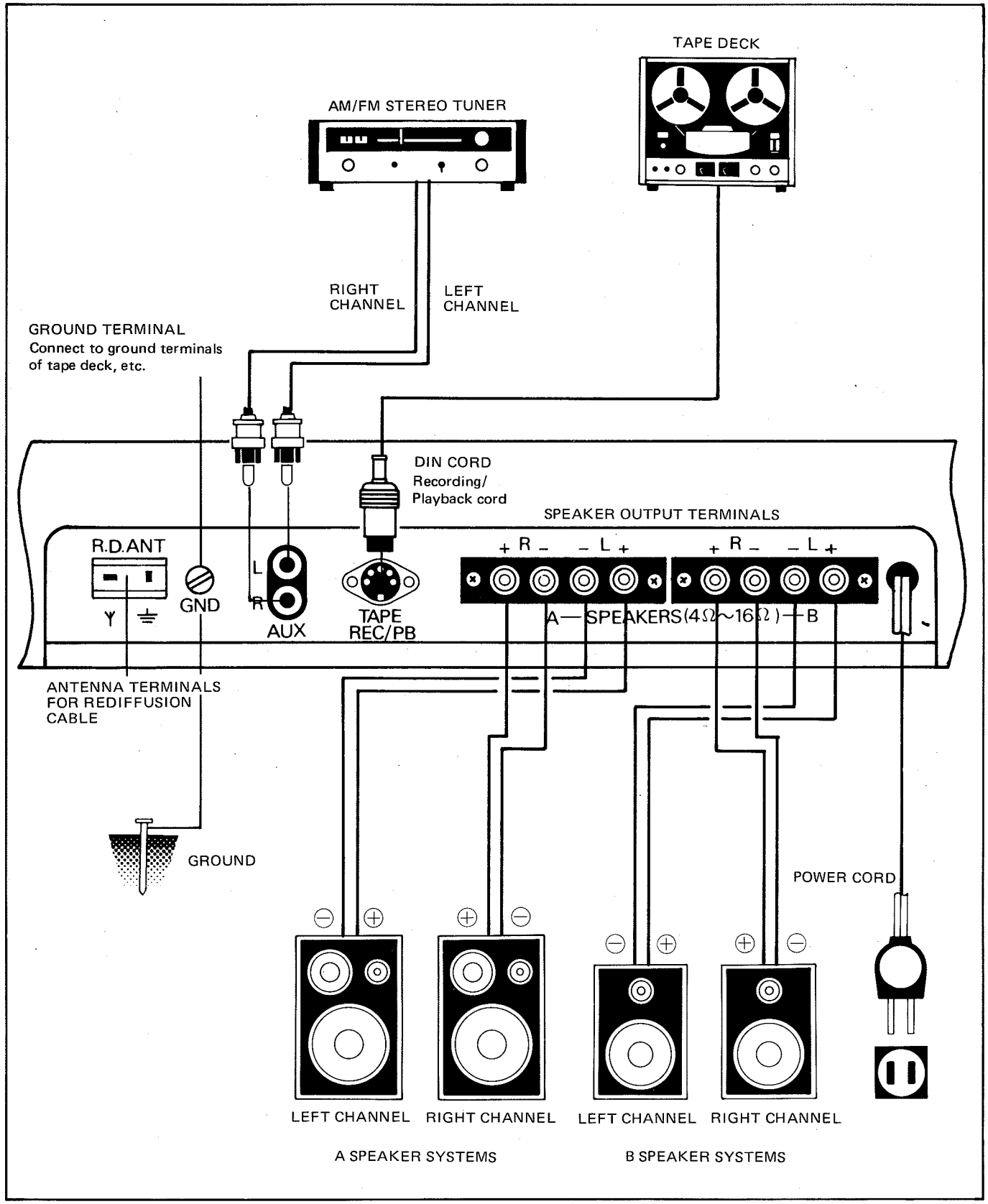


Fig. 12

CONNECTION DIAGRAM

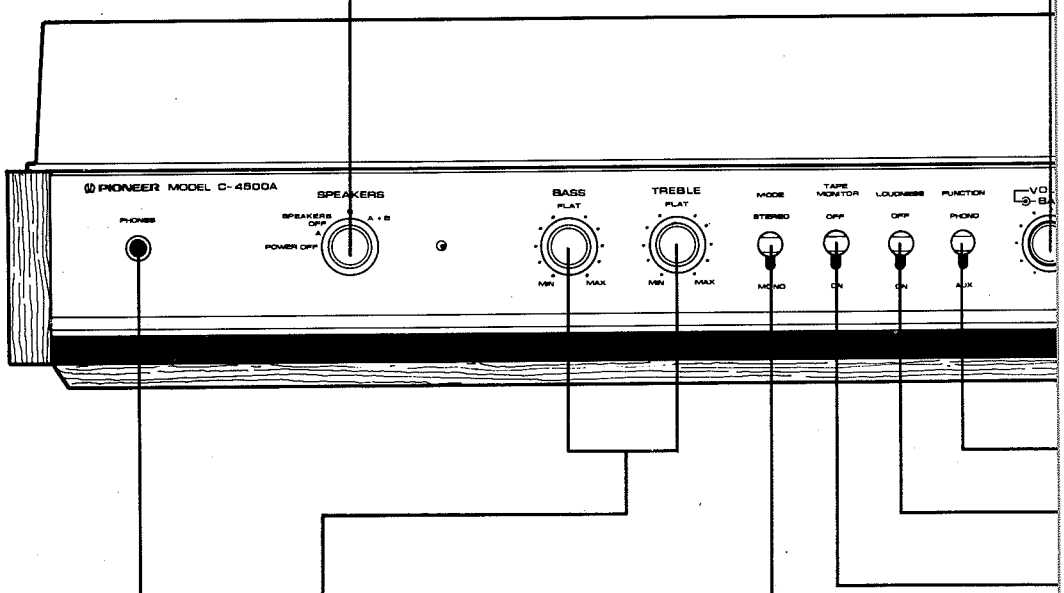


FRONT PANEL FACILITIES

SPEAKERS SWITCH

Switch for selecting power supply ON and OFF, and speakers.

POWER OFF	Power supply OFF.
A	Sound can be obtained from the speaker system connected to the "A" terminals.
SPEAKERS OFF	All speaker sound turned OFF; use this position when employing stereo headphones.
B	Sound can be obtained from the speaker system connected to the "B" terminals.
A+B	Sound can be obtained from "A" and "B" speaker systems.



PHONES JACK

When using stereo headphones, insert the headphone plug into this jack.

BASS AND TREBLE CONTROLS

Controls for adjusting low and high audio tones. When clickstop type knobs are turned clockwise, tone is enhanced. Rotating the knobs counterclockwise attenuates tone.

MODE SWITCH

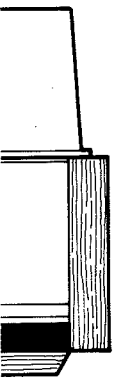
STEREO	Set to this position for stereo reproduction.
MONO	Set to this position for monophonic reproduction. At this setting, left (L) and right (R) signals are mixed and reproduced from the left and right speakers.

VOLUME CONTROL

Control for adjusting sound volume. Clockwise rotation increases volume.

BALANCE CONTROL

Adjusts volume balance between left and right speakers. When rotated counterclockwise from center position, right speaker volume decreases, while clockwise rotation decreases left speaker volume.



FUNCTION SWITCH

Set to PHONO when playing records.
When playing component connected to the AUX terminals, set to AUX.

LOUDNESS SWITCH

When listening at low volume level, set this switch to ON. This emphasizes the extreme high and low ends of the sound spectrum, giving a more natural sound contour.

TAPE MONITOR SWITCH

With tape deck connected to the TAPE REC/PB terminal, this switch permits monitoring of recording conditions. Also set this switch to ON during tape playback.

WHEN USING TAPE DECK

RECORDING

Recording level adjustment should be performed from the tape deck.

PLAYBACK

Playback can be performed when the TAPE MONITOR switch is set to ON. Adjust the VOLUME, BASS and TREBLE controls for desired volume and tone.

Tape Monitor

When employing a 3-head type tape deck or one equipped with a monitoring mechanism, operating the TAPE MONITOR switch ON-OFF allows recording conditions to be monitored.

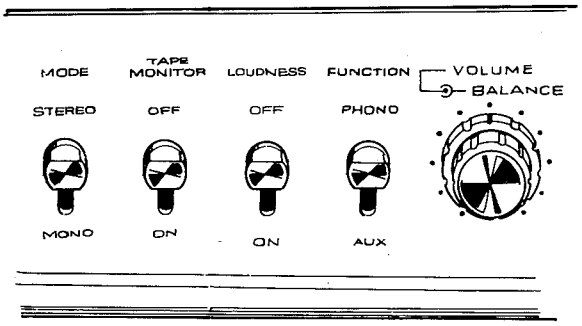


Fig. 13

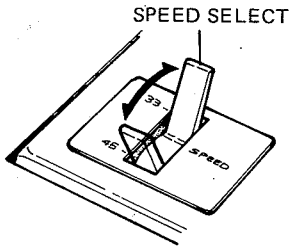
EMPLOYING REDIFFUSION TUNER

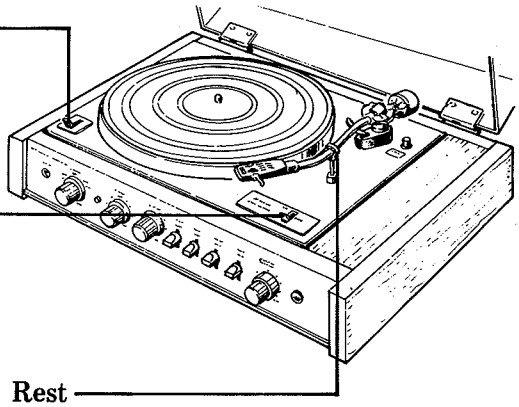
As an optional feature, a rediffusion tuner can be installed in the C-4500A on your request.
Please consult a Pioneer dealer or authorized service station.

TURNTABLE DESCRIPTION AND OPERATION

Speed Select Lever

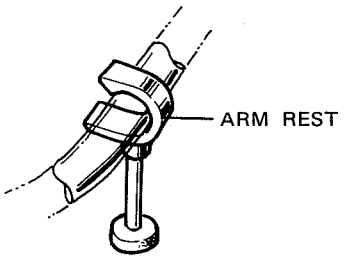
The C-4500A is a two-speed type: 33-1/3 rpm and 45 rpm. Speed must be reset only while turntable platter is rotating.





Arm Rest

The arm rest supports the tonearm when not in use.



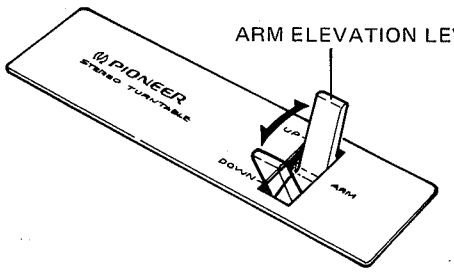
Arm Elevation Lever

This is a lever for controlling the up-and-down movement of the tonearm.

UP . . . . . Tonearm will quietly float the arm head up from the record.

DOWN . . . . . Tonearm will quietly float the arm head down on the record.

This is a convenient device for cueing in any portion of the record without fear of scratching the record surface.



EP Record Adaptor

An EP record adaptor is supplied in the accessory group, which permits 45 rpm records with large center holes to be played.

EP RECORD ADAPTOR

HOW TO OPERATE THE TURNTABLE

1. Put the record to be played on the turntable.
2. Remove the stylus protection cover.
3. Bring the tonearm by hand above the cueing position on the record. This operation will simultaneously cause the turntable platter to rotate.
4. Set the speed select lever at the correct position: 33 or 45 rpm.
5. Set the arm elevation lever to DOWN. Then the tonearm will quietly float down on the record.
6. At the end of the record, move the arm elevation lever to UP. Then the tonearm will float up from the record surface and stay there. Return the tonearm by hand to the arm rest.

IMPORTANT! OBSERVE CAREFULLY

1. Never touch the speed select lever unless the turntable is rotating. The speed can be changed only while the turntable is rotating.
2. Never obstruct the turntable by hand while it is rotating. This may cause damage.
3. Always keep the stylus clean. Remove dust with a soft brush.
4. Always keep your records scrupulously clean, too. Clean them with a commercially available record cleaner or cloth.
5. Never touch the stylus with your finger. Hands off.

WHAT TO DO IN CASE OF TROUBLE

Wow (unstable sound)	Oil on the belt, motor pulley or inner turntable rim.	Wipe clean. Use a soft cloth with a little alcohol but never use benzine or the like.
Howling (loud roar)	Occurs only when volume is turned up. Caused by sound from loudspeakers hitting phono cartridge directly.	Turn down volume. Move C-4500A further away from loudspeakers.

REGARDING TURNTABLE

STYLUS REPLACEMENT

Generally a diamond tip stylus should last about 600 to 800 hours of operation. Do not use the stylus longer than that because a worn stylus may damage the records or produce distorted sound. When replacing the stylus, unplug the head shell from the tonearm (Fig. 14) and pull out the stylus together with its holder (Fig. 15). Replace the stylus unit with a new one.

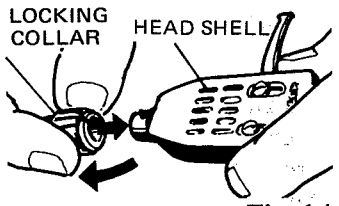


Fig. 14

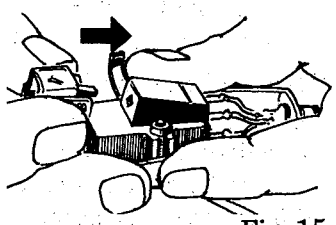


Fig. 15

EXCHANGING THE CARTRIDGE

The color-coded pin connectors in the head shell conform to the international EIA standard. Attach the cartridge according to the drawing (Fig. 16). Then plug the head shell into the front end of the tonearm and tighten it by giving the tonearm locking collar approximately one turn.

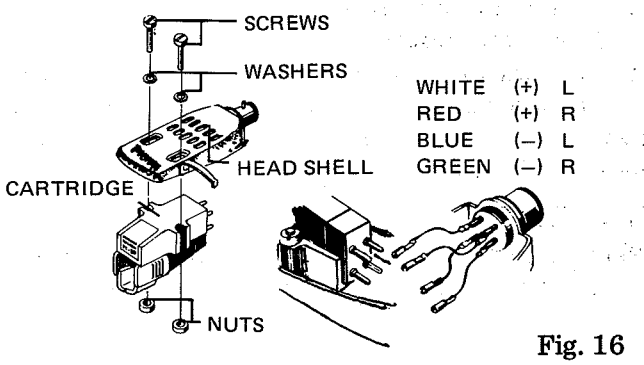


Fig. 16

Overhang Adjustment

After mounting cartridge, you must adjust overhang length. At first, plug out AC cord from AC outlet, set the EP record adaptor provided with overhang gauge onto the center shaft.

If it is difficult to lead the tonearm to that place, remove the main counterweight from the rear end of the tonearm.

Bring the head shell to the point of the overhang gauge and regulate stylus tip to 15.5mm index line explained in Fig. 17 and 18.

When overhang adjustment is over, tighten the cartridge-held screws.

When overhang adjustment is over, replace the main counterweight.

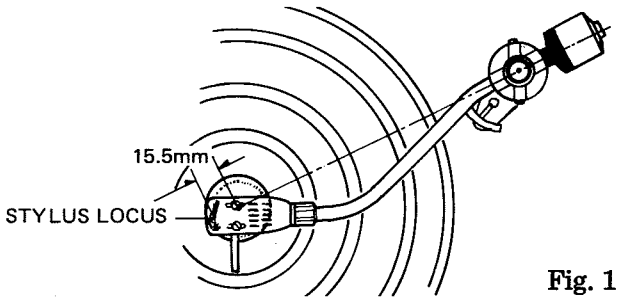


Fig. 17

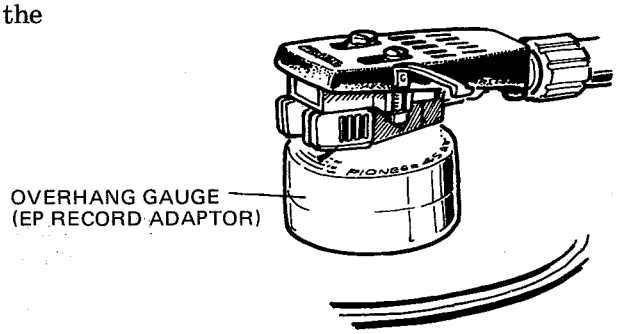


Fig. 18

LUBRICATION

Before applying oil to turntable, remove the turntable platter by using the following procedure:

1. Return the tonearm onto the arm rest, then support the tonearm with the arm clamper of the arm rest.
2. Remove the drive belt with fingers from the motor pulley.
3. Pull the turntable platter upward with two fingers inserted into the turntable platter's two openings (Fig. 19).
   If the turntable platter should not be removed easily, pull it up strongly, with care taken not to damage any part of the turntable.

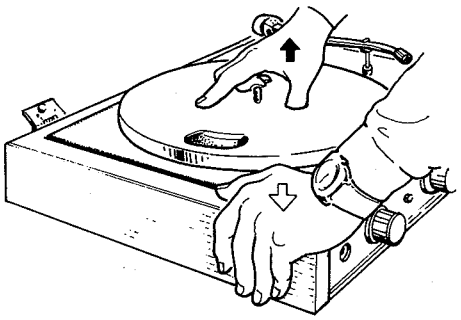


Fig. 19

When Lubrication is required ...

Mechanical noises and wow and flutter result from the lack of lubricant in parts. Lubricate the specified spots at least once every two months if your turntable is used for home entertainment, and two to three in a month if used for professional purposes. Apply one or two drops to the base of the center shaft and the motor lubricating hole (Fig. 20).
When lubricating, be careful not to let oil adhere to the motor pulley, belt, or inner rim. If oil should adhere to these parts, wipe it off with a cloth moistened with pure alcohol.

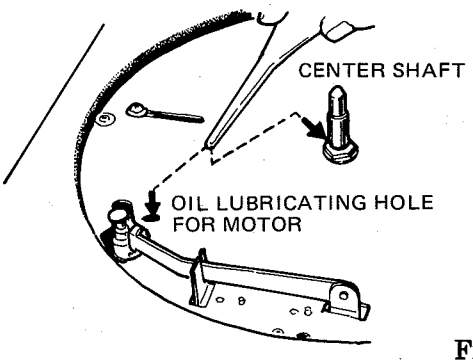


Fig. 20

When Lubrication is over ...

Replace the turntable platter on the center shaft, then re-set the drive belt around the motor pulley.

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